



PATENT
Docket No. SPLX.P0089

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Mani Adeji

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Steven Teig

Serial No.: 10/047,978

Filing Date: 1/13/02

For: **PROBABILISTIC ROUTING METHOD
AND APPARATUS**

**INFORMATION DISCLOSURE
STATEMENT UNDER 37 C.F.R. § 1.97**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, applicants submit with this Information Disclosure Statement the attached Form PTO-1449, and copies of the documents listed in the 1449 form for consideration by the Examiner. The Examiner is requested to make these documents of record. Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

03/29/2004 SSESHE1 0000066 10047978

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This Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

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Dated: March 22, 2004

Respectfully submitted,

By: _____

Mani Adeli
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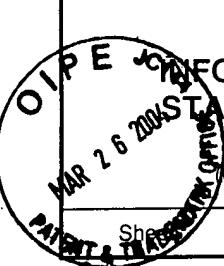
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/047,978
Sheet	1	of	1	Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitemore
				Attorney Docket Number	SPLX.P0089

U.S. PATENT DOCUMENTS

Examiner* Initials	Cite No. ¹	U.S. Patent Document		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	1.	2002/0182 844	A1	12-05-2002	Igarashi et al.	
	2.	2003/0053 399	A1	01-02-2003	Igarashi et al.	
	3.	5,663,891		09-02-1997	Bamji et al.	
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	6.	6,128,767		10-03-2000	Chapman	
	7.	6,226,560	B1	05-01-2001	Hama et al.	
	8.	6,519,751	B2	02-11-2003	Sriram et al.	
	9.	6,543,043	B1	04-01-2003	Wang et al.	

NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	10.	Hu, J. et al., A Timing-Constrained Algorithm for Simultaneous Global Routing of Multiple Nets, IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000, pp.99-103.	
	11.	Kastner, R. et al, Predictable Routing, IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000. pp. 110-113.	

Examiner Signature		Date Considered
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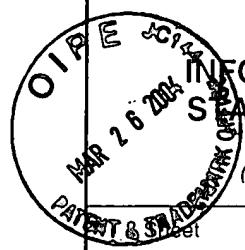
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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

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	1	of	6	Application Number	10/047,978
				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitemore
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	1.	2001/0009 031	A1	07-19-2001	Nitta et al.	
	2.	4,593,363		06-03-1986	Burstein et al.	
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	8.	5,640,327		06-17-1997	Ting	
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	14.	6,209,123	B1	03-27-2001	Maziasz et al.	
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	19.	6,307,256		10-23-2001	Chiang et al.	
	20.	6,316,838	B1	11-13-2001	Ozawa et al.	
	21.	6,324,675	B1	11-27-2001	Dutta et al.	

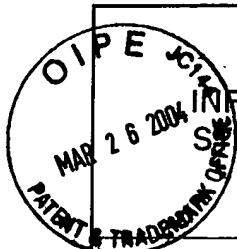
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)					Application Number	10/047,978
					Filing Date	1/13/02
					First Named Inventor	Steven Teig
					Group Art Unit	2812
					Examiner Name	Stacy A. Whitemore
Sheet	2	of	6		Attorney Docket Number	SPLX.P0089

U.S. PATENT DOCUMENTS				
22.	6,330,707		12-11-2001	Shinomiya et al.
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30.	6,546,540	B1	04-08-2003	Igarashi et al.
31.	6,557,145	B2	04-29-2003	Boyle et al.
32.	6,567,967	B2	05-20-2003	Greidinger et al.

FOREIGN PATENT DOCUMENTS							
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		Office ³	Number ⁴				
	33.	JP	411296560	A	10-29-1999	Matsumoto et al.	with English translation of Abstract;
	34.	JP	2000-82743	A	03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.
	35.	JP	H03-173471	A	07-26-1991	Tawada et al.	with Japanese Patent Office's English translation of Abstract; and with English

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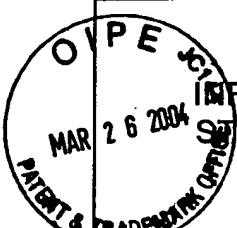
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FOREIGN PATENT DOCUMENTS							
							translation of the application.
	36.	JP	H05-243379	A	09-21-1993	Masako Kuboto	with Japanese Patent Office's English translation of Abstract; and with English translation of the application. <input checked="" type="checkbox"/>
	37.	JP	H05-102305	A	04-23-1993	Akihiro Sato	with Japanese Patent Office's English translation of Abstract; and with English translation of the application. <input checked="" type="checkbox"/>
	38.	JP	H07-86407	A	03-31-1995	Shinpei Miura	with Japanese Patent Office's English translation of Abstract; and with English translation of the application. <input checked="" type="checkbox"/>
	39.	JP	H09-162279	A	06-20-1997	Masaaki Yohsida	with Japanese Patent Office's English translation of Abstract; and with English translation of the application. <input checked="" type="checkbox"/>

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Sheet 4 of 6

4 of 6

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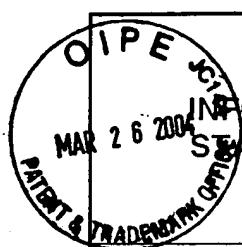
NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	40.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.	
	41.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp. 956-931.	
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	46.	Cheng, K. et al., Manhattan or Non Manhattan? A Study of Alternative VLSI Routing Architectures, pp 47-52, 2000.	
	47.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, iss. 3A, pp. 929-933.	
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	53.	Hong, X. et al., Performance-Driven Steiner Tree Algorithms for Global Routing, 30 th ACM/IEEE Design Automation Conference, 1993, pp. 177-181.	

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Sheet	5	of	6	Attorney Docket Number	SPLX.P0089
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67.	Tseng, H., Timing and Crosstalk Driven Area Routing, pp. 378-381.	

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				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whittemore
Sheet	6	of	6	Attorney Docket Number	SPLX.P0089

NON PATENT LITERATURE DOCUMENTS

68.	Wang, D., Novel Routing Schemes for IC Layout, Part I: Two-Layer Channel Routing, 28 th ACM/IEEE Automation Conference, 1991, pp. 49-53.
69.	Wang, M. et al., Modeling and Minimization of Routing Congestion, Jan. 2000, IEEE proceedings of ASP-DAC, Asia and South Pacific, pp. 185-190.
70.	Wood, G. et al., FPGA Routing and Routability Estimation Via Boolean Satisfiability, Department of Electrical and Computer Engineering Carnegie Mellon University, Pittsburgh, PA, pp. 119-125.
71.	Zhang, C.X. et al., Floorplan Design Using a Hierarchical Neutral Learning Algorithm, IEEE, 6/1991. pp. 2060-2063.
72.	Zhou, H. et al., An Optimal Algorithm for River Routing with Crosstalk Constraints, 1996.
73.	Zhou, H. et al., Global Routing with Crosstalk Constraints, Department of Computer Sciences, University of Texas, 1998, pp. 374-377.
74.	Zhou, H. et al., Optimal River Routing with Crosstalk Constraints, ACM Transactions on Design Automation of Electronic Systems, vol. 3, No. 3, July 1998, pp. 496-514.

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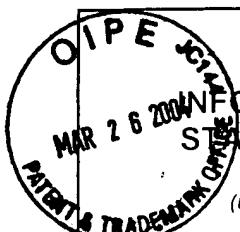
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Sheet	1	of	1	Attorney Docket Number	SPLX.P0089
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NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1.	Kastner R et al.: "Predictable Routing" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000. Pages 110-113.	
	2.	Jiang Hu et al.: "A Timing-Constrained algorithm for Simultaneous Global Routing of Multiple Nets" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA USA, 5-9 Nov. 2000. Pages 99-103.	

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Sheet	1	SP	4	Application Number	10/047,978
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				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
				Attorney Docket Number	SPLX.P0089

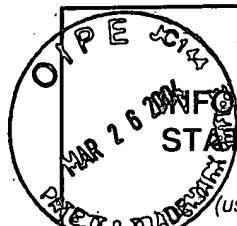
RELATED U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Related Application Data
		Number	Date of filing MM-DD-YYYY		
	1.	2003/0079193	12-07-2001	Steven Teig et al.	Parent application; present application is a continuation of 2003/079193.
	2.	2003/0018947	12-07-2001	Steven Teig et al.	Application filed on the same day as the parent application 2003/0079193, with the same specification as the present application except for summary and abstract.
	3.	2002/0147958	10-19-2001	Steven Teig et al.	Parent application per the preliminary amendment dated 2/19/03.
	4.	2003/0063614	01-04-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
	5.	2003/0064559	01-04-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
	6.	2003/0063568	01-04-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
	7.	2003/0101428 S/N 10/040,915	01-05-2002	Steven Teig et al.	Continuation of 2003/0079193.
	8.	2003/0101428 S/N 10/040,915	01-05-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0101428 does not accurately reflect the claims of S/N 10/040,915.
	9.	2002/0166105 S/N 10/040,948	01-05-2002	Steven Teig et al.	Continuation of 2003/0079193.
	10.	2002/0166105 S/N 10/040,948	01-052-002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0166105 does not accurately reflect the claims of S/N 10/040,948.
	11.	2003/0043827 S/N 10/040,953	01-052-002	Steven Teig et al.	Continuation of 2003/0079193.
	12.	2003/0043827	01-052-002	Steven Teig et al.	This Preliminary Amendment is submitted as

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Sheet 2 SP 1v				4	Application Number 10/047,978
					Filing Date 1/13/02
					First Named Inventor Steven Teig
					Group Art Unit 2812
					Examiner Name Stacy A. Whitmore
Attorney Docket Number SPLX.P0089					

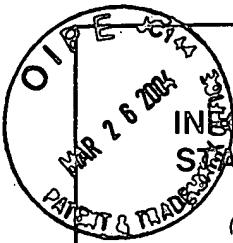
RELATED U.S. PATENT DOCUMENTS

	S/N 10/040,953				the publication 2003/0043827 does not accurately reflect the claims of S/N 10/040,953.
13.	2003/0023943 S/N 10/040,954	01-05-2002	Steven Teig et al.		Continuation of 2003/0079193.
14.	2003/0023943 S/N 10/040,954	01-05-2002	Steven Teig et al.		This Preliminary Amendment is submitted as the publication 2003/0023943 does not accurately reflect the claims of S/N 10/040,954.
15.	2003/0066042 S/N 10/040,963	01-05-2002	Steven Teig et al.		Continuation of 2003/0079193.
16.	2003/0066042 S/N 10/040,963	01-05-2002	Steven Teig et al.		This Preliminary Amendment is submitted as the publication 2003/0066042 does not accurately reflect the claims of S/N 10/040,963.
17.	2002/0174412 S/N 10/040,942	01-07-2002	Steven Teig et al.		Continuation of 2003/0079193.
18.	2002/0174412 S/N 10/040,942	01-07-2002	Steven Teig et al.		This Preliminary Amendment is submitted as the publication 2002/0174412 does not accurately reflect the claims of S/N 10/040,942.
19.	2003/0088844 S/N 10/041,957	01-07-2002	Steven Teig et al.		Continuation of 2003/0079193.
20.	2003/0088844 S/N 10/041,957	01-07-2002	Steven Teig et al.		This Preliminary Amendment is submitted as the publication 2003/0088844 does not accurately reflect the claims of S/N 10/040,957.
21.	2002/0199165 S/N 10/046,864	01-13-2002	Steven Teig et al.		Continuation of 2003/0079193.
22.	2002/0199165 S/N 10/046,864	01-13-2002	Steven Teig et al.		This Preliminary Amendment is submitted as the publication 2002/0199165 does not accurately reflect the claims of S/N 10/046,864.
23.	2003/0066043	01-13-2002	Steven Teig et al.		Continuation of 2003/0088844 per preliminary amendment.
24.	2003/0115566	01-13-2002	Steven Teig		Continuation of 2003/0088844 per preliminary amendment.

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Sheet				3	SP v	4	Attorney Docket Number	SPLX.P0089
RELATED U.S. PATENT DOCUMENTS								
	25.	2003/0056187 S/N 10/047,982		01-14-2002	Steven Teig et al.	Continuation of 2003/0079193.		
	26.	2003/0056187 S/N 10/047,982		01-14-002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0056187 does not accurately reflect the claims of S/N 10/047,982		
	27.	2003/0066044		01-13-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.		
	28.	2003/0066045		01-13-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.		
	29.	2002/0133798		12-06-2000	Steven Teig et al.	Application regarding related placement technology		
	30.	2002/0100007		12-06-2200	Steven Teig et al.	Parent application; present application is a CIP of 2002/0100007.		
	31.	2002/0073390 S/N 09/737,210		12-13-2000	Steven Teig et al.	Application regarding related placement technology		
	32.	2002/0073390 S/N 09/737,210		12-13-2000	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0073390 does not accurately reflect the claims of S/N 09/737,210		
	33.	S/N 09/737,220		12-13-2000	Steven Teig et al.	Application regarding related placement technology		
	34.	S/N 09/737,245		12-13-2000	Steven Teig et al.	Application regarding related placement technology		
	35.	S/N 09/739,460		12-15-2000	Steven Teig et al.	Continuation of parent 2002/0100007.		
	36.	2002/0124231 S/N 09/739,580		12-15-2000	Steven Teig et al.	Continuation of parent 2002/0100007.		
	37.	2002/0124231 S/N 09/739,580		12-15-2000	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0124231 does not accurately reflect the claims of S/N 09/739,580.		
	38.	S/N 09/739,589		12-15-2000	Steven Teig et al.	Continuation of parent 2002/0100007.		
	39.	S/N 09/742,171		12-19-2000	Steven Teig et al.	Continuation of parent 2002/0100007.		
	40.	2003/0121015		12-19-2000	Steven Teig et al.	Continuation of parent 2002/0100007.		
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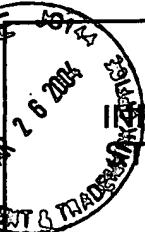
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Sheet	4	SP ↓	4	Application Number	10/047,978
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				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
				Attorney Docket Number	SPLX.P0089

RELATED U.S. PATENT DOCUMENTS

		S/N 09/745,067			
	41.	2003/0121015 S/N 09/745,067	12-19-2000	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0121015 does not accurately reflect the claims of S/N 09/745,067.
	42.	2002/0069397	01-13-2002	Steven Teig et al.	CIP of parent 2002/0100007.
	43.	2002/0170027	02-20-2002	Steven Teig et al.	CIP of parent 2002/0100007.
	44.	2002/0157075	02-20-2002	Steven Teig et al.	CIP of parent 2002/0100007.
	45.	2003/0088841 S/N 10/329,241	12-23-2002	Steven Teig et al.	Application regarding related placement technology.
	46.	2003/0088841 S/N 10/329,241	12-23-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0088841 does not accurately reflect the claims of S/N 10/329,241.

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U.S. PATENT DOCUMENTS

Examiner* Initials	Cite No. ¹	U.S. Patent Document		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (If known)			
	1.	2003/0121017	A1	06-26-2003	Andreev et al.	
	2.	6,088,519		07-11-2000	Koford	

NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁸
	3.	Chen et al., Optimal Algorithms for Bubble Sort Based Non-Manhattan Channel Routing, May 1994, Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions Volume: 13 Issues, pp. 603-609.	

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